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| 10/586,577 | 06/16/2008 | Erik Middelman | N62.12-0001 | 6172 |

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| EXAMINER |
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ENIN-OKUT, EDU E

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| ART UNIT | PAPER NUMBER |
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1727

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08/16/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/586,577

Applicant(s)

MIDDELMAN, ERIK

Examiner

Edu E. Enin-Okut

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/19/06, 11/13/06, 3/5/07
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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POWER PLANT COMPRISING FUEL CELLS

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an Application No. 1025289 filed in the Netherlands on January 20, 2004. It is noted, however, that applicant has not filed a certified copy of that application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 9 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 9 recites "parallel-connected fuel cell stacks". However, upon review of the instant specification, the specification describes parallel-connected strings series-connected stacks (see p. 6 of the instant specification).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faita et al. (US 6,423,203 (cited in IDS)).

Regarding claims 1, 2, 3, 4, 5 and 6, Faita teaches a direct connection of fuel cells to electrolyzers ["electrochemical process where hydrogen is released"; part of "power plant"] of electrochemical plants that avoids the need for direct to alternate current conversion (Abstract; Figs. 1,4,5). Connection of the fuel cells to electrolyzers and a rectifier can occur in series or parallel to provide uniform current to the resulting circuit (2:50-64; Figs. 2,3). The total fuel cell system [part of "power plant"] is made of as many base modules, each one composed of stacks connected in series ["fuel cell stacks connected in strings"], as necessary to ensure complete utilization of all available by-product hydrogen fed to the cells (Abstract; 3:18-48; Figs. 4,5). An example of the fuel cell system includes 16 modules, as shown in Figs. 4 and 5. Where the voltages of the fuel cells, electrolyzers and a rectifier in a circuit are the same, the current fed to the electrolyzers is given by the sum of the current output of the fuel cells and rectifier (2:51-61). As the voltage of the electrolyzers depends on the time of operation, and also on the intensity of the current fed thereto, activation of interrupters which vary the number of modules inserted into

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the electrolyzers-rectifier circuit (in parallel) and the electric voltage of the modules themselves is effected by an iterative procedure performed by the computerized control and supervision system (3:55-67; Claims 3,5,7). Alternatively, varying the air pressure feed to the fuel cells can also vary module voltage (3:67-4:3; Claims 3,6,7,9,15).

Although Faita does not expressly teach that the installed peak power of the power plant is more than two times higher than the average peak generated power, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the necessary number of fuel cell modules in the power plant of Faita, where its installed peak power is more than two times higher than the average peak generated power, because Faita teaches that it should include the modules necessary to ensure complete utilization of all available by-product hydrogen fed to the cells; and, the skilled artisan would appreciate that this would allow for any spikes in current requirements of the plant to be more than adequately compensated for. Further, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960), *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. See MPEP 2144.04 (VI).

As to the remaining limitations with respect to how the power plant functions, these limitations have been considered, and construed as the manner of operating an apparatus that adds no additional structure to the power plant as claimed. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). See MPEP 2114. However, because the power plant of Faita is structurally similar to that instantly claimed, it appears capable of being operated as claimed with similar if not identical claimed characteristics.

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Regarding claims 7, 8, and 10, the limitations recited in this claim has been addressed above with respect to claims 1-6.

Regarding claim 9, Faita teaches that groups of fuel cell stacks are connected to each other in parallel as shown in Figs. 4 and 5.

Regarding claims 11 and 12, although Faita does not expressly teach that the power plant includes more than a hundred fuel cell stacks, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a hundred fuel cell stacks in the power plant of Faita because Faita teaches that it should include the modules necessary to ensure complete utilization of all available by-product hydrogen fed to the cells, as discussed above; and, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960), *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. See MPEP 2144.04 (VI). The remaining limitations recited in these claims have been addressed above with respect to claims 1-10.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Edu E. Enin-Okut** whose telephone number is **571-270-3075**. The examiner can normally be reached on Monday to Thursday, 7 a.m. - 3 p.m. (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Barbara L. Gilliam can be reached on 571-272-1330. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edu E. Enin-Okut/
Examiner, Art Unit 1727

/Barbara L. Gilliam/
Supervisory Patent Examiner, Art Unit 1727